IN THE CLAIMS:

What is claimed is:

1. (Original) A method to maintain a hierarchy of application objects, the method including:

automatically detecting exit of a child application object;

automatically terminating a grandchild application object launched by the child application object;

attempting restart of the child application object; and

signaling an outcome of the restart to a parent application object that launched the child application object.

2. (Original) The method of claim 1 including maintaining an application hierarchy recording a hierarchical relationship between the parent, child and grandchild application objects.

3. (Original) The method of claim 2 wherein the maintaining of the application hierarchy includes launching the parent application object, launching the child application object responsive to a request from the parent application object, and launching the grandchild application object responsive to a request from the child application object.

4. (Original) The method of claim 1 wherein, if the restart of the child application object is successful, then communicating a restart message to the parent application object to inform the parent application object of the successful restart.

5. (Original) The method of claim 1 wherein, if the restart of the child application object is not successful, then communicating a failure message to the parent application object to inform the parent application object of the failed restart.

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6. (Original) The method of claim 1 wherein the automatic detecting of the exit of the child application object includes detecting hanging of a process of the child application object.

7. (Original) The method of claim 1 including automatically determining whether the exit of the child application object was expected, and only attempting the restart if the exit was unexpected.

8. (Original) The method of claim 1 wherein, if the restart of the child application object is successful, then creating a new process identifier for the process of the child application object.

9. (Original) A system to maintain a hierarchy of application objects, the system including:

a watchdog automatically to detect exit of a child application object; and

an executor automatically to terminate a grandchild application object launched by the child application object, to attempt restart of the child application object, and to signal an outcome of the restart to a parent application object that launched the child application object.

10. (Original) The system of claim 9 wherein the executor is to maintain an application hierarchy recording a hierarchical relationship between the parent, child and grandchild application objects.

11. (Original) The system of claim 10 wherein the executor is to launch the parent application object, to launch the child application object responsive to a request from the parent application object, and to launch the grandchild application object responsive to a request from the child application object.

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12. (Original) The system of claim 9 wherein, if the restart of the child application object is successful, the executor is to communicate a restart message to the parent application object.

13. (Original) The system of claim 9 wherein, if the restart of the child application is not successful, the executor is to communicate a failure message to the parent application object.

14. (Original) The system of claim 9 wherein the watchdog is to automatically detect the exit of the child application object by detecting a hang state for a process of the child application object.

15. (Original) The system of claim 9 wherein the executor is to determine whether the exit of the child application object was expected and only to attempt the restart if the exit was unexpected.

16. (Original) The system of claim 9 wherein the executor, if the restart of the child application is successful, is to create a new process identifier for a process of the child application object.

17. (Original) A machine-readable medium storing a sequence of instructions that, when executed by a machine, cause the machine to:

automatically detect exit of a child application object;

automatically terminate a grandchild application object launched by the child application object;

attempt restart of the child application object; and

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signal an outcome of the restart to a parent application object that launched the child application object.

18. (Original) A system to maintain a hierarchy of application objects, the system including:

first means for automatically detecting exit of a child application object and;

second means for automatically terminating a grandchild

application object launched by the child application object, for attempting restart of the child application object, and for

signaling an outcome of the restart of the parent application object that launched the child application object.